

## ABSTRACT OF THE DISCLOSURE

For use in acoustic micro imaging, a method (and implementing apparatus) is disclosed for creating a 4D virtual sample data memory. The method comprises employing a pulsed ultrasonic microscope probe to interrogate a sample at three-dimensionally varied locations in the sample. Data developed by the microscope probe includes for each location interrogated a digitized A-scan for that location. The developed data is stored in a data memory.